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Tri-Community Flooding Group Minutes 03/09/2010

Tri-Community Meeting Minutes - 3/9/2010

Mike Toohill and Jake San Antonio presented the Final Environmental Impact Report (FEIR) for the Aberjona River Flood Mitigation Program. Paper copies of these plans should be available at area town halls and public libraries.

The meeting began at 6:00 pm, and concluded at approximately 7:45 pm.

Attendees

Peter Castanino (Belmont DPW)
Elsie C. Fiore (Arlington)
Bob Fitzpatrick (Sen. Jehlen's Office)
Roger Frymire (Cambridge)
Steve Kaiser (Cambridge)
Enid Kumin (MyWRA)
Carolyn Mieth (MRWA)
Owen O'Riordan (Cambridge DPW)
Michael Rademacher (Arlington)
Steve Revilak (Arlington)
Clarissa Rowe (Arlington)
Jake San Antonio (AECOM)
Mike Toohill (Coneco)
Catherine Daly Woodbury (Cambridge DPW)

Motivation and Program Background

Years of flood impact motivated the Aberjona River Flood Mitigation Program. The town of Winchester experienced 55-75 year flood events in 1996, 1998, 2001 and 2006, causing approximately \$25MM in damage. The flood mitigation program began in 1999 with the Aberjona River study, and progressed to the present FEIR submission in February 2010.

The study used the FEMA model corresponding to the June 2010 flood insurance rate maps. The model was calibrated to the Winchester USGS gauge, and later validated against the Alewife Brook gauge. Mass. DCR has adopted the new FEMA model, and the Mass. DEP has accepted the project's gauge calibration standards.

In addition to the Aberjona River Flood Mitigation Program, Winchester has implemented a rain barrel program and adopted a set of rules and regulations for the use of public sewers and storm drains. The rain barrel program has a minor effect on controlling runoff, but it helps to spread awareness of the town's flooding issues. The rules and regulations for the use of public sewers and storm drains apply to new construction, and to modifications of existing structures.

Projects

Seventeen projects were proposed for the Aberjona River Flood Mitigation Program. This was eventually reduced to the following six projects.

- **Project 2.** Widening the Aberjona river channel between Waterfield Road and Bacon Street, to a uniform width of 35 feet. This includes an eight-foot wide low-flow channel.
- **Project 3.** Replacing the Center Falls Dam 30-inch gate valve with 5-by-5 butterfly gates and 4-by-6 discharge boxes.
- **Project 4.** Adding an additional eight-foot opening at the Mount Vernon Street Bridge.
- **Project 6.** Adding a 7-by-15 foot box culvert at the Winchester High School playing field.
- **Project 8.** Replacing the Swanton Street Bridge 10-by-16 foot opening with a 10-by-25 foot opening.
- **Project 10.** Installing two seven-foot conduits underneath the MBTA railroad bridge near Muraco School. These supplement the existing 6.5-by-7 foot bridge openings.

There are three related projects that focus on flow control and mitigation.

- Upper Mystic Lakes Dam reconstruction (currently in progress).
- Adding control structures to Scalley Dam in Woburn. This will nearly triple the size of the dam flood gates, and allow better control of storm water release.
- Craddock Locks at the Main Street bridge in Medford. The locks will be removed, yielding hydraulic benefit.

Construction Phases

There are nine phases to the Program's construction. These phases are ordered such that there is no increase in the 100-year flood profile downstream of the Amelia Earhart dam.

- Phase 1. Completion of the Mystic Lakes Dam project.
- Phase 2. Phase 1, plus widening of the Aberjona river channel in (Project 2).
- Phase 3. Phase 2, plus flow mitigation at the Main Street bridge in Medford.
- Phase 4. Phase 3, plus flow control structures at Scalley Dam in Woburn.
- Phase 5. Phase 4, plus work at the Center Falls Dam (Project 3).
- Phase 6. Phase 5, plus work at the Mount Vernon Street Bridge (Project 4).
- Phase 7. Phase 6, plus work at the Winchester High School playing field (Project 6).
- Phase 8. Phase 7, plus work at the Swanton Street bridge (Project 8).
- Phase 9. Phase 8, plus work at the MBTA bridge near Muraco School (Project 10).

By the time Phase 9 is complete, the program + mitigation projects should reduce the 100-year flood levels by *up to* ~ 3.5 feet in the town of Winchester, and by ~ 4-6 inches in the Alewife Brook area.

1 Aberjona River Flood Mitigation Program FEIR. pg ES-1 - ES-2 (pdf pages 16-17)

2 ibid. Figures M-8 - M-34 (pdf pages 829-855)

Program Risks

After an overview of projects and construction phases, the group discussed potential risks associated with the Program.

There is an operational component at Scalley Dam. If the flood gates are not opened and the dam overtops, then there could be significant flooding downstream.

The Program is dependent upon three flow mitigation projects: the Mystic Lakes Dam reconstruction, Scalley Dam, and the removal of the Craddock Locks from the Main Street bridge in Medford. Without these flow mitigation projects, the Program would increase the 100-year flood profile in some areas by approximately two inches.

Global climate change could increase ocean levels, leading to 500-year flood events that overtop the Amelia Earhart and Charles River dams.

Winchester is still seeking project funding. The town expects to receive some stimulus money, and they are actively seeking additional sources of funding.

When the program is complete, Winchester will likely ask for a re-evaluation of FEMA's flood insurance rate maps. It's uncertain as to whether the re-evaluation will be limited to the town of Winchester, or if it will include nearby communities in the area affected by the Program.